FR 2,771,632 A1

FR 2 771 632

Translated from French by the Ralph McElroy Translation Company
910 West Avenue, Austin, Texas 78701 USA

Code: 5000-76161

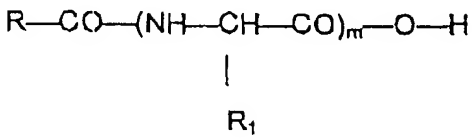
FRENCH REPUBLIC
NATIONAL INSTITUTE FOR INDUSTRIAL PROPERTY
PATENT NO. 2 771 632 A1

Int. Cl.[6]:	A 61 K 7/48 A 61 K 7/075
Filing No.:	97 15086
Filing Date:	December 1, 1997
Publication Date of the Application:	June 4, 1999 Bulletin 99/22
List of documents cited in the preliminary search report:	Refer to the end of the present specification.

SYNERGISTIC COMPOSITION COMPRISING AT LEAST ONE LIPOAMINO ACID AND AT LEAST ONE GLYCOL; APPLICATION IN COSMETICS

Applicant:	Societe D'Exploitation de Produits pour les Industries Chimiques SEPPIC Société anonyme – FR.
Inventor:	Corinne Stoltz
Agent:	l'Air Liquide Societe Anonyme pour l'Etude et l'Exploitation des Procedes des Georges Claude

Composition characterized in that it comprises at least one compound having formula (I):



or its topically acceptable salts,

in which R represents the characterizing chain of a saturated or unsaturated, linear or branched, fatty acid comprising 3-30 carbon atoms, R_1 represents a characterizing chain of an amino acid, and m is between 1-5, and at least one compound having formula (II):

$$R_2\text{-CHOH-}CH_2OH$$

or its topically acceptable salts,

in which R_2 represents a linear or branched, saturated or unsaturated, aliphatic radical comprising 6-16 carbon atoms.

Application in cosmetics.

The invention relates to an antimicrobial composition, its use for the preparation of cosmetic compositions, and the compositions so obtained.

Most of the problems connected with skin, such as dandruff, comedons, cysts, "blackheads," or any other manifestations that affect the aesthetics of the human body, are connected with the presence of bacterial germs which, notably because of their enzymes, induce a skin reaction, such as, for example, an inflammation.

Among these skin problems one can mention acne, which is a frequent cutaneous disorder that affects, at the filing date of the present patent application, approximately five million people in this country; the most frequent form is juvenile polymorphous acne, which occurs during puberty.

The acne starts at the level of the pilosebaceous follicle, simultaneously causing hyperkeratinization of the pilosebaceous duct, sebaceous hypersecretion, as well as bacterial proliferation at the level of the pilosebaceous follicle.

The hyperkeratinization of the pilosebaceous duct leads to its obstruction, which in turn promotes colonization by a microorganism frequently found in this pathology: *Propionibactrum acnes*.

Sebaceous hypersecretion is a constant factor during acne; it is the result of an increased sensitivity of the sebaceous gland to androgens, which leads to the increase in sebum secretion. Because of the hyperkeratinization of the pilosebaceous duct, elimination of the sebum is impaired, and even prevented, which leads to the formation of comedons and closed microcysts. The sebum so accumulated in a follicle then becomes a site of bacterial proliferation. Sebum, which is rich in triglycerides, is then very quickly degraded to free fatty acids (FFA) by the lipases originating from the bacterial germs. The free fatty acids so formed become oxidized on

contact with oxygen from the air, notably into peroxides, which maintain, and even worsen, local inflammation.

Whether on healthy skin or acne-affected skin, the bacterial flora encountered on the skin surface or inside the comedons is qualitatively the same: it comprises yeasts, such as *Pityrosporum ovale* and *Pityrosporum orbiculare*, staphylococci such as *Staphylococcus epidermis*, *Staphylococcus capitis* or *Staphylococcus hominis*, or propionibacteria such as *Propionibacterium acnes*.

Propionibacterium acnes produces lipases which are capable of hydrolyzing the triglycerides of sebum into free fatty acids. The free fatty acids are known to be comedogenic; that is, they can cause follicle hyperkeratosis. Thus, the colonization of the follicle by these bacteria determines another source of comedogenic material which, subsequently, will cause the development of microcomedons. *Propionibacterium acnes* is also responsible for the accumulation of neutrophilic leukocytes, and indirectly mononuclear lymphocytes, thus resulting in the development of inflammation and an immune response.

The above-mentioned staphylococci colonize both healthy skins as well as acne lesions, in which they are found at a frequency comparable to that of *Propionibacterium acnes*; 70-75% of the comedons are colonized, either by staphylococci or by propionibacteria, with an average 10^4-10^5 bacteria per comedon. The fact that the comedons are open (blackheads) or closed (microcysts) does not seem to have a qualitative influence on the proliferation of these two types of bacteria. *Staphylococcus epidermis* secretes elastase, which is responsible for the perifollicular elastolysis lesions.

Pityrosporum., such as those mentioned above, are present in quantities of the same order of magnitude as the staphylococci or the propionibacteria, and although they are aerobes, they can be found in the deep layers of the follicle as well as in the closed comedons.

According to the directive of the Council of the European Economic Community No. 76/768/EEC of July 27, 1976, modified by directive No. 93/35/EEC of June 14, 1993, "cosmetic product" is defined as any substance or preparation intended to be brought in contact with the different superficial parts of the human body (epidermis, follicle and hair system, nails, lips and genitals) or with the teeth and oral mucosal membranes, exclusively or primarily, to clean them, to perfume them, to modify their appearance and/or to correct body odor and/or to protect them or maintain them in a good condition.

Because of an increased concern about pollution problems connected with modern life, notably in highly urbanized places, the aspect of skin protection has become predominant in research on novel cosmetic products. As a response to aggressions or sensations of aggression on the skin, the concept of soothing cosmetic products has been developed.

In general, a soothing product or soothing cosmetic formulation is any product in a formulation, which procures a sensation of well-being to the skin, notably a sensation of softness, elasticity, and/or relief felt by the subject thanks to the application of said product on the skin.

They have the special characteristic of acting by several dermopharmacological mechanisms, which makes them very effective as soothing cosmetic products on all types of skin. Thus, they possess a hydrating activity, a germicidal and antimicrobial activity, an anti-inflammatory activity, whether by inhibiting the free radicals formed, notably by ultraviolet radiation, or by inhibiting enzymes, such as lipases, lipoxygenase, 5-alpha-reductase, which is notably responsible for the production of sebum, elastase and hyaluronidase, which are responsible for the degradation of the matrix tissue and an antagonistic activity of substance P.

The compounds with lipoamino acid structure; for example, those described in the International Patent Applications Nos. WO92/20647, WO92/21318, WO94/26694 and WO94/27561, are, because of their amphiphilic structure, biological vectors of particular interest as cutaneous physiology regulators, and they have been shown to be appropriate for multiple applications, notably in cosmetics.

However, to protect the cosmetic or dermopharmaceutical compositions from microbial contamination, it is standard procedure to include chemical preservatives such as phenoxyethanol and derivatives thereof, paraben and derivatives thereof, or compounds which, by slow decomposition, produce formol.

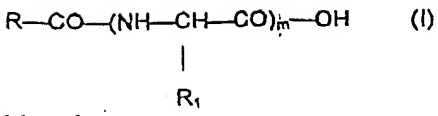
Such compounds present the drawback of causing intolerance reactions in some users.

To reduce the occurrence of such side effects, efforts have been made to replace these compounds by other less irritating ones, without, however, weakening the protection of the cosmetic compositions against microbial contamination.

The European Patent Application published under No. EP 0 747 047 discloses combinations of lipoamino acids with glycerol monoalkyl ethers which do not cause cutaneous intolerance, while presenting an antimicrobial activity which is at least as effective as that of the compositions of the prior art.

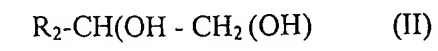
In the context of these research studies to improve preservation of the cosmetic compositions, the applicant has developed novel compositions whose antimicrobial protection is potentiated, and whose activity in the treatment of cutaneous conditions of disequilibrium caused by the proliferation of specific microorganisms, is preserved, and even improved, by the presence of compounds acting synergistically, without affecting its soothing character.

The invention relates to a composition comprising at least one compound having formula (I):



or its topically acceptable salts,

in which R represents the characterizing chain of a saturated or unsaturated, linear or branched, fatty acid comprising 3-30 carbon atoms, R_1 represents a characterizing chain of an amino acid, and m is between 1 and 5, and at least one compound having formula (II):



or its topically acceptable salts,

in which R_2 represents a linear or branched, saturated or unsaturated, aliphatic radical comprising 6-16 carbon atoms.

A topically acceptable salt is defined as any salt of an acid having formula (I), which is biologically acceptable for the skin and/or the mucosal membranes; that is, notably, any salt capable of regulating the pH of the composition to 3-8, and preferably approximately 5, that is, a pH close to that of the skin.

The salts can notably be alkali salts such as sodium, potassium or lithium salts, alkaline-earth salts such as the calcium, magnesium or strontium salts; they can also be metal salts, such as divalent zinc or manganese salts, or trivalent salts of trivalent iron, lanthanum, cerium or aluminum salts.

The compound having formula (I), present in the composition which is the object of the present invention, can be in the form of a free acid or in a partially or completely salted form.

The expression "characterizing chain" used in the context of the present application denotes the nonfunctional main chain of the fatty acid or the amino acid in question.

Thus, for fatty acids having the general formula R-COOH, the characterizing chain is the chain represented by R.

The radical R notably represents a radical comprising 5-22 carbon atoms chosen from the radicals pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl, hexadecyl, heptadecyl, octadecyl, nonadecyl, eicosyl, uneicosyl, docosyl, heptadecenyl, eicosenyl, uneicosenyl, docosenyl, heptadecadienyl or decenyl.

More specifically, the invention relates to the compositions as described above for which, in formula (I), the fragment R-CO comprises 6-22 carbon atoms and notably represents one of the radicals hexanoyl, heptanoyl, octanoyl (capryloyl), decanoyl (caproyl), undecylenoyl, dodecanoyl (lauroyl), tetradecanoyl (myristyl), hexadecanoyl (palmitoyl), octadecanoyl (stearyl), eicosanoyl (arachidoyl), docosanoyl (behenoyl), octadecenoyl (oleyl), eicosenoyl (gadoloyl), docosenoyl (erucyl), and octadecadienoyl (linolenoyl).

In a first preferred variant of the present invention, in formula (I), the fragment R-CO comprises 7-12 carbon atoms.

For an amino acid represented by the general formula:

$$H_2N\text{-}CHR_1\text{-}COOH,$$

the characterizing chain is the chain represented by R_1.

R_1 notably represents the characterizing chain of an amino acid chosen from glycine, alanine, serine, aspartic acid, glutamic acid, valine, threonine, arginine, lysine, proline, leucine, phenylalanine, isoleucine, histidine, tyrosine, tryptophan, asparagine, cysteine, cystine, methionine, hydroxyproline, hydroxylysine and ornithine.

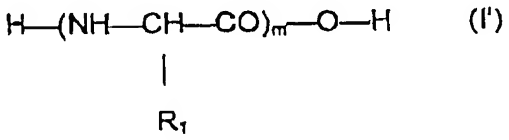
The invention relates more specifically to the composition as described above for which, in formula (I), R_1 represents the characterizing chain of glycine, alanine, glutamic acid or aspartic acid.

The expression "at least one compound having formula (I)" denotes that the composition according to the invention can contain one or more of these compounds.

The term "linear or branched, saturated or unsaturated, aliphatic acid comprising 6-16 carbon atoms" notably denotes in formula (II) a radical chosen from the radicals hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl or hexadecyl.

In a preferred embodiment of the present invention, the compound having formula (II) is 1,2-octanediol.

The compounds having formula (I) are generally prepared by the acylation of compounds having formula (I'):



(I')

or salts thereof, which themselves were prepared by total or partial hydrolysis of proteins of any origin. These proteins can be of animal origin, for example, collagen, elastin, fish meat protein, fish gelatin, or keratin or caseine; of plant origin, for example, those originating from soybean, sunflower, oats, wheat, corn, barley, potato, lupins, field bean, almond, silk, or those obtained from chorella (unicellular algae), pink algae or yeasts.

This hydrolysis can be carried out, for example, by heating a protein placed in an acid or alkaline bath, to temperatures of 60-130°C.

This hydrolysis can also be carried out by an enzymatic route with a protease, possibly coupled to an alkaline or acid posthydrolysis.

When m is larger than 1, R_1 represents several characterizing chains of amino acids, depending on the hydrolyzed protein and the degree of hydrolysis.

In a preferred variant of the present invention, when the composition comprises only one compound having formula (I), m is equal to 1, and when the composition comprises a mixture of compounds having formula (I), the mean degree of condensation of the N-acylated amino acids in this mixture is less than 2.

The acylation reaction which allows the preparation of the compounds having the above cited formula (I) can be carried out by a chemical route in an alkaline medium (pH 8-10) using the Schotten Bauman reaction or by an enzymatic route, and a person skilled in the art can notably refer to the following reference: Surfactant Science Series, Volume 7, Anionic Surfactants, part II, chapter 16, pp. 581-617 (Marcel Dekker – 1976).

In general, the currently preferred embodiment variant for the preparation of lipoamino acid compounds having formula (I) comprises the following steps:

a) Acylation in an alkaline medium (pH 8-10) of an excess of mixture of amino acids (prepared mixture or mixture obtained by the complete hydrolysis of a protein) by an amino acid (or a mixture of amino acids), in the form of an acid or chloride anhydride.

The amino acids/chloride ratio is preferably 1.05-1.30Eq..

The optimal acylation temperature is approximately 80°C, but it varies from one amino acid to the other in a range of 60-110°C.

The duration of the acylation depends on the equipment used (size, stirring): it is approximately 2 h for an acylated weight of 500 kg and approximately 5 h for an acylated weight of 5000 kg.

b) Breaking of the alkaline acylate by acidification to decant the water-soluble impurities and release the organic acid acylate (optimum pH 0.5-3 depending on the amino acids).

c) Purification by washing with water or with addition of electrolytes or cosolvent to promote decanting.

In addition to the active principles having formula (I) and formula (II), the composition according to the invention comprises mineral or organic vehicles that are routinely used in the manufacture of compositions intended to be formulated in preparations for cosmetic and/or pharmaceutical usage: one can mention, for example, water or water/alcohol mixtures, such as aqueous solutions of ethanol, propanol or isopropanol.

In a preferred embodiment of the present invention, the composition as described above comprises 15-60 wt%, and more advantageously 20-40 wt%, of at least one compound having formula (I) in which the fragment R-CO comprises 7-12 carbon atoms, or its topically acceptable

salts, and 15-60 wt%, and more advantageously, 20-40 wt%, of at least one compound having formula (II).

The composition as defined above notably comprises 20-40 wt% of a compound having formula (I) in which R_1 represents a hydrogen atom, the fragment R-CO represents an octanoyl radical or an undecylenoyl radical, m is equal to 1, and 20-40 wt% of 1,2-octanediol.

In another embodiment of the present invention, the composition as defined above notably comprises 20-40 wt% of a mixture of octanoyl glycine and undecylenoyl glycine and 20-40 wt% of 1,2-octanediol.

The composition which is the object of the present invention can also comprise, in addition to the active principles having formula (I) and formula (II) as defined above, compounds with germicidal activity and/or compounds with soothing and/or [anti]inflammatory activity.

In a variant of the present invention, the composition comprises, in addition to the principles having formula (I) and formula (II), as defined above, one or more compounds chosen from zinc gluconate, the constituents of an extract or a tincture of tannin-rich plant materials, or the mixed magnesium/potassium aspartate.

In the preceding definition, the words "extract" and "tincture" are used in their respective definitions as established in the 1997 edition of the European Pharmacopoeia; extracts are concentrated preparations that may be liquid, solid or of intermediate consistency, generally prepared from dried plant or animal raw materials. The tinctures (tincturae) are preparations generally obtained from dried plant or animal raw materials.

The terms "extracts" or "tinctures" of tannin-rich plant raw materials notably denotes extracts or tinctures of rathania, tea, cinnamon, willow or hamamelis. These extracts or tinctures are commercially available. They are included in the French and/or European Pharmacopoeias.

In a preferred variant of the present invention, when the composition as defined above comprises an extract or tincture of tannin-rich plant materials, a cinnamon extract is used.

When the mixed magnesium/potassium aspartate is present in the composition which is the object of the present invention, this composition contains 0.5-5 wt% of it.

When the zinc gluconate is present in the composition which is the object of the present invention, this composition contains 0.1-10 wt%, and, more advantageously, 0.5-5 wt%, of it.

When one or more extracts or tinctures of tannin-rich plant materials are present in the composition which is the object of the present invention, their content in this composition is 0.1-10 wt% and, more advantageously, 0.5-5 wt%.

According to the European Pharmacopoeia, the extracts can be in the form of fluid extracts, soft or firm extracts, or dry extracts.

In the preceding definition of the composition according to the invention, the percentages by weight of constituents of the extract or of the tincture correspond to dry residue weight percentages, said dry residue being prepared by evaporation of the solvent and desiccation of said extract or said tinctures under operating conditions where the alteration of the constituents is minimal.

The composition according to the invention is used in cosmetics. As shown in the following examples, the composition according to the invention is unexpectedly characterized by an increased antimicrobial activity at pH 5. This notably allows a decrease, and even the elimination, of the chemical preservatives of cosmetic formulations prepared from this composition.

This notably allows its use to soothe and/or protect sensitive skin, to hydrate dry skin, to slow the aging of the skin and/or to treat skin with a tendency to acne; in the latter indication, the composition according to the invention can be used as a concomitant treatment with the medical treatment of acne.

The composition according to the invention is also used for the disinfection of the skin and the mucosal membranes. In this case, it can involve a simple act of body hygiene or a treatment in addition to the medical treatment of an infection.

The composition according to the invention is also used in the treatment of the scalp, notably as an antidandruff active ingredient.

These uses in themselves also constitute an object of the present invention.

Depending on the use, the composition as described above is used at different concentrations and in a formulation appropriate for this use; such cosmetic compositions are usually in the form of aqueous solutions, diluted alcohol solutions, or simple or multiple emulsions, such as water-in-oil (W/O), oil-in-water (O/W) or water-in-oil-in-water (W/O/W) emulsions. As cosmetic formulation, one can mention the creams, milks, lotions, baby wipes, shower gels, soaps, liquid soaps, syndets, products for intimate hygiene, and shampoos.

Such formulations are known to a person skilled in the art, their preparations are described, for example, in the patent applications published under Nos. WO92/06778, WO93/28204, WO95/13863, WO95/35089 or WO96/22109.

Thus the invention also relates to a cosmetic formulation which can be prepared by dilution using a dilution factor of 1/10 to 1/20,000 of the composition as described above, in one or more cosmetically acceptable excipients, and notably in a cosmetic formulation in the form of an oil-in-water emulsion having the appearance of a milk having a viscosity of less than 1 Pa•s, comprising, as emulsifier, a self-emulsifiable composition based on fatty alcohols.

As preferred self-emulsifiable composition, one can mention MONTANOV 68 ® marketed by the company SEPPIC.

The term "dilution" as used above covers, in its broadest range of meanings, all the steps that allow the conversion of the composition as defined above into the cosmetic formulation intended to be marketed.

In another preferred embodiment of the present invention, the cosmetic formulation is a lotion for the treatment of skin with a tendency to acne.

In another preferred embodiment of the present invention, the cosmetic formulation is a foaming formula or an antidandruff shampoo.

The invention in particular relates to a cosmetic formulation comprising 0.001-10 wt% of at least one compound having formula (I) and 0.001-10 wt% of at least one compound having formula (II), if desired up to 1 wt% of at least one extract or tincture of tannin-rich plant raw materials, chosen from extracts of cinnamon, rathania, tea, willow, hamamellis, if desired up to 1 wt% of zinc gluconate, and if desired up to 1 wt% of mixed potassium/magnesium aspartate.

In particular, the invention relates to a cosmetic formulation comprising as active principle 0.5-10 wt% of a compound having formula (I'):

$$R'\text{-}CO\text{-}NH\text{-}CH_2\text{-}COOH \qquad (I')$$

in which R'-CO represents an octanoyl radical or an undecylenoyl radical, having 0.5-10 wt% octanediol, if desired, up to 1 wt% of constituents of an extract of plant raw material chosen from the extracts of cinnamon, rathania, tea, willow, or hamamellis, if desired up to 1 wt% of zinc gluconate, and if desired up to 1 wt% of mixed potassium/magnesium aspartate,

and a cosmetic formulation comprising, as active principle 0.001-0.005 wt% of at least one compound having formula (I') as defined above, 0.001-0.005 wt% of octanediol, if desired up to 0.005 wt% of constituents of an extract of a plant raw material chosen from the extracts of cinnamon, rathania, tea, willow, or hamamellis, if desired 0.0001-0.005 wt% of zinc gluconate and if desired up to 0.005 wt% of mixed potassium/magnesium aspartate.

The following examples illustrate the invention without limiting it.

Examples

A) Preparation of the compositions according to the invention

a) One mixes, while stirring, the following compounds:

• Lipacide UG, marketed by the company SEPPIC, whose active principle is undecylenoyl glycine,

• Octanediol SJ®, marketed by the company Arnaud/Schmitt Jourdan, whose active principle is 1,2-octanediol (capryl glycol),

• Glycerin,

• Tris (Tris-hydroxymethylaminomethane or trimethamine in a sufficient quantity to obtain a pH of approximately 5.0-6.0

• Water

A liquid, stable, odorless and water-soluble solution is obtained whose pH is approximately 5.6-6.0.

After filtration through a membrane filter (approximately 3 μm), one obtains a composition A containing approximately:

- 25 wt% of Lipacide UG
- 25 wt% of Octanediol SJ® and
- 10 wt% of glycerin.

b) By using the method described in a) starting with appropriate compounds, one obtains the composition B containing approximately:

- 25 wt% of Lipacide CBG
- 25 wt% of Octanediol SJ and
- 10 wt% of glycerin.

c) Using the method described in a), one obtains the composition C containing approximately:

- 12.5 wt% of Lipacide C8G
- 12.5 wt% of Lipacide UG
- 25 wt% of Octanediol SJ and
- 10 wt% of glycerin.

d) Using the method described in a), but adding, before filtration through a membrane, an aqueous solution of a dry extract of cinnamon marketed by the company Alban Muller International, one obtains the compositions A_1, B_1, C_1, respectively, containing approximately:

Composition A_1

25 wt% of Lipacide C8G
25 wt% of Octanediol SJ
10 wt% of glycerin
3 wt% of constituents of the dry extract of cinnamon

Composition B_1

25 wt% of Lipacide C8G
25 wt% of Octanediol SJ
10 wt% of glycerin
3 wt% of constituents of the dry extract of cinnamon

Composition C_1

12.5 wt% of Lipacide C8G

12.5 wt% of Lipacide UG

25 wt% of Octanediol SJ

10 wt% of glycerin

3 wt% of constituents of the dry extract of cinnamon.

B) Detection of the antimicrobial activity according to the invention

The minimum inhibitory concentrations of composition according to the invention were determined at pH 5 on the growth of the following strains:

Pseudomonas aeruginosa

Staphylococcus aureus

Candida albicans

Aspergillus niger.

Composition A is diluted in water to obtain composition A_2 containing 0.05 wt% of undecylenoyl glycine and 0.05 wt% of 1,2-octanediol, the composition A_3 containing 0.0025 wt% of undecylenoyl glycine and 0.0025 wt% of 1,2-octanediol, and the composition A_4 containing 0.0375 wt% of undecylenoyl glycine and 0.0375 wt% of 1,2-octanediol.

The following results are obtained:

	① (I) undécylènoyl glycine seul	② (II) octanediol-1,2 seul	③ combinaison (I) + (II) (50/50)
Pseud. aerug.	0,075 %	0,5 %	0,05 % (II) + 0,05 % (III)
Staph. aureus	0,01 %	0,1 %	0,0025 % (II) + 0,0025 % (III)
Candida albicans	0,05 %	0,25 %	0,0375 % (II) + 0,0375 % (III)
Aspergillus Niger	0,25 %	0,1 %	0,05 % (I) + 0,05 % (II)

Key: 1 Undecylenoyl glycine alone
2 1,2-Octanediol alone
3 Combination

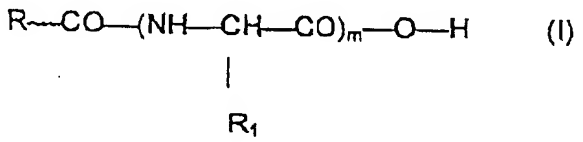
[Editor's note: In the tables, commas in numbers represent decimal points.]

These results show a synergistic effect on the antimicrobial activity specific to the combinations of the products (I) + (II), on Gram-negative bacteria, Gram-positive bacteria, fungi or yeasts.

These tests show the advantage of combining in the same formulation a compound having formula (I) and a compound having formula (II).

Claims

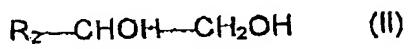
1. Composition characterized in that it comprises at least one compound having formula (I):



(I)

or its topically acceptable salts,

in which R represents the characterizing chain of a saturated or unsaturated, linear or branched, fatty acid comprising 3-30 carbon atoms, R_1 represents a characterizing chain of an amino acid, and m is between 1-5, and at least one compound having formula (II):



(II)

or its topically acceptable salts,

in which R_2 represents a linear or branched, saturated or unsaturated, aliphatic radical comprising 6-16 carbon atoms.

2. Composition as defined in Claim 1, for which, in formula (I), the fragment R-CO comprises 6-22 carbon atoms and notably represents one of the radicals hexanoyl, heptanoyl, octanoyl (capryloyl), decanoyl (caproyl), undecylenoyl, dodecanoyl (lauroyl), tetradecanoyl (myristyl), hexadecanoyl (palmitoyl), octadecanoyl (stearyl), eicosanoyl (arachidoyl), docosanoyl (behenoyl), octadecenoyl (oleyl), eicosenoyl (gadoloyl), docosenoyl (erucyl), and octadecadienoyl (linolenoyl).

3. Composition as defined in any one of Claims 1 or 2, for which, in formula (I), the fragment R-CO comprises 7-12 carbon atoms.

4. Composition as defined in any one of Claims 1-3, for which, in formula (I), R_1 represents the characterizing chain of glycine, alanine, glutamic acid or aspartic acid.

5. Composition as defined in any one of Claims 1-4, for which, in formula (II), the radical R_2 is chosen from the radicals hexyl, heptyl, octyl, nonyl, decyl, undecyl, dodecyl, tridecyl, tetradecyl, pentadecyl or hexadecyl.

6. Composition as defined in any one of Claims 1-5, for which the compound having formula (II) is 1,2-octanediol.

7. Composition as defined in any one of Claims 1-6, characterized in that, when the composition comprises only one compound having formula (I), m is equal to 1 and when the composition comprises a mixture of compounds having formula (I), the mean degree of condensation of the N-acylated amino acids in this mixture is less than 2.

8. Composition as defined in any one of Claims 1-7, comprising 15-60 wt%, notably 20-40 wt%, of at least one compound having formula (I) or one of its topically acceptable salts, and 15-60 wt%, notably 20-40 wt%, of at least one compound having formula (II).

9. Composition as defined in Claim 8, comprising 20-40 wt% of the compound having formula (I) in which R_1 represents a hydrogen atom, the fragment R-CO represents an octanoyl radical or an undecylenoyl radical, and m is equal to 1, and 20-40 wt% of 1,2-octanediol.

10. Composition as defined in Claim 8, comprising 20-40 wt% of a mixture of octanoyl glycine and undecylenoyl glycine, and 20-40 wt% of 1,2-octanediol.

11. Composition as defined in any one of Claims 1-10, characterized in that it comprises, in addition, 0.1-10 wt%, and preferably, 0.5-5 wt% of zinc gluconate.

12. Composition as defined in any one of Claims 1-11, characterized in that it comprises, in addition, 0.1-10 wt%, and notably 0.5-5 wt%, of at least one extract and/or at least one tincture made from tannin-rich plant raw materials.

13. Composition as defined in Claim 12 in which the extract of tannin-rich plant matter is a cinnamon extract.

14. Composition as defined in any one of Claims 1-13, characterized in that it comprises, in addition, 0.5-5 wt% of a mixed magnesium/potassium aspartate.

15. Utilization of the composition as defined in any one of Claims 1-14 in cosmetics.

16. Utilization according to Claim 15 to soothe and/or protect sensitive skin, to hydrate dry skin, and/or to slow the aging of the skin, and/or to treat the scalp.

17. Utilization according to Claim 15 to disinfect the skin and the mucosal membranes.

18. Utilization according to Claim 15 to treat skin with a predisposition for acne.

19. Cosmetic formulation that can be obtained by preparing dilutions having a dilution factor of 1/10 to 1/20,000 of the composition as defined by any one of Claims 1-14, in one or more cosmetically acceptable excipients.

20. Formulation as defined in Claim 19, in the form of an oil-in-water emulsion having the appearance of a milk with a viscosity of less than 1 Pa•s, comprising, as emulsifier, a self-emulsifiable composition based on fatty alcohols.

21. Formulation as defined in Claim 19, in the form of a lotion for the treatment of skin with a predisposition for acne.

22. Formulation as defined in Claim 19, in the form of a foaming formula or an antidandruff shampoo.

23. Cosmetic formulation comprising, as active principle, 0.001-10 wt% of at least one compound having formula (I) and 0.001-10 wt% of at least one compound having formula (II), if desired, up to 1 wt%, of at least one extract and/or at least one tincture made from tannin-rich plant raw material, chosen from extracts of cinnamon, rathania, tea, willow and hamamellis, if desired up to 1 wt% of zinc gluconate and, if desired up to 1 wt% of a mixed potassium/magnesium aspartate.

24. Cosmetic formulation comprising as active principle, 0.5-10 wt% of a compound having formula (I'):

$$R'\text{-}CO\text{-}NH\text{-}CH_2\text{-}COOH \qquad (I')$$

in which R'-CO represents an octanoyl radical or an undecylenoyl radical, with a content of 0.5-10 wt% of 1,2-octanediol, if desired, up to 1 wt% of constituents of an extract of plant raw materials chosen from cinnamon, rathania, tea, willow, or hamamellis, if desired up to 1 wt% of zinc gluconate, and if desired up to 0.2 wt% of a mixed potassium/magnesium aspartate.

25. Cosmetic formulation comprising as active principle, 0.001-0.005 wt% of a compound having formula (I')

$$R'\text{-}CO\text{-}NH\text{-}CH_2\text{-}COOH \qquad (I')$$

in which R'-CO represents an octanoyl radical or an undecylenoyl radical, with a content of 0.001-0.005 wt% of 1,2-octanediol, if desired, up to 0.005 wt% of constituents of an extract of plant raw materials chosen from cinnamon, rathania, tea, willow, or hamamellis, if desired up to 0.005 wt% of zinc gluconate, and if desired up to 0.005 wt% of a mixed potassium/magnesium aspartate.

FRENCH REPUBLIC
National Institute
of Industrial Property

Application Number
2771632

SEARCH REPORT

established on the basis of the most recent claims filed before the start of the search

FA 550364
FR 9715086

DOCUMENTS CONSIDERED TO BE RELEVANT		Claims concerned in the examined document	
Category	Citation of document with indication where appropriate, of relevant passages		
X	EP 0 415 598 A (UNILEVER PLC, UNILEVER N.V.) March 6, 1991 * Example 25 *	1	
A	WO 97 24131 A (PIERRE FABRE DERMO-COSMETIQUE) July 10, 1997	1	
A	FR 2 503 144 A (J. MORELLE ET AL.) October 8, 1982	1	
A	G. PROSERPIO ET AL.: "Sostanze 'non conservanti" in grado di inibire la crescita microbica nei cosmetici"" COSMETICS & TOILETRIES ED. IT., Vol. 17, No. 3, 1996, page 11-13, 16-19 XP002074040 * Page 16 *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.[6]) A61K

Date of completion of the search	Examiner
August 10, 1998	Glikman, J-F

CATEGORY OF CITED DOCUMENTS

X: Particularly relevant if taken alone.
Y: Particularly relevant if combined with another document of the same category.
A: Technological background.
O: Non-written disclosure.
P: Intermediate document.

T: Theory or principle underlying the invention.
E: Earlier patent document, but published on, or after the filing date.
D: Document cited in the application.
L: Document cited for other reasons.

.....

&: Member of the same patent family, corresponding document.